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Learning 2.0 - The Impact of Social Media on Learning in Europe

POLICY BRIEF

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PREFACE

This policy brief has been prepared by the Institute for Prospective Technological Studies (IPTS) in collaboration with DG Education and Culture, Directorate A, Unit A1 (Lifelong Learning: contribution to the Lisbon process).

The IPTS contribution to the strategic policy work of DG EAC consists of techno-economic research and prospective analyses on the use of ICT for creativity, innovation and lifelong learning for all. Studies on the impact of social computing on (1) formal Education and Training and (2) informal Learning Communities have been carried out, and a total of four policy briefs are foreseen. Two of these were published in 2008:

- Policy Brief 1: ICT for Learning, Innovation and Creativity <u>http://ipts.jrc.ec.europa.eu/publications/pub.cfm?id=1819</u>
- Policy Brief 2 : Digital Competence for Lifelong Learning <u>http://ipts.jrc.ec.europa.eu/publications/pub.cfm?id=1820</u>

The goal of Policy Brief 3 is to summarize key messages from recent IPTS research on the impact of Social Computing on Learning, also called Learning 2.0, in Europe. More information on these research projects can be found at: http://is.jrc.ec.europa.eu/pages/EAP/eLearning.html.

The studies and results of the IPTS Information Society Unit can be found on the Unit website: <u>http://is.jrc.ec.europa.eu.</u>

1. The Use of the Internet for Information and Learning Purposes

Over the last few years, the Internet has had a profound effect on the private and professional lives of European citizens, offering them an increasing number and range of opportunities for accessing information, gaining and exchanging knowledge and realising personal learning goals.

The core indicators for Internet take up show that most Europeans are using the Internet. According to Eurostat 2009 data, 65% of EU27 households have Internet access at home, ranging from 30% in Bulgaria to 90% in the Netherlands. 60% of the EU27 population (aged 16 to 74) uses the Internet at least once a week; 48% uses it every day. This increase in Internet usage goes with a significant increase in computer skills: in 2009, 64% of Europeans possess some computer skills, shown by the fact that they carried out at least one of a list of six most common computer tasks; 50% carried out at least three of these tasks.

The Internet has become an important source of information for significant parts of the European population. On average, 51% of European citizens (EU27) aged 16 to 74 use the Internet for finding information about goods and services (ranging from 12% in Romania to 79% in the Netherlands). 33% use the Internet for seeking health-related information (ranging from 10% in Bulgaria to 56% in Finland); and 31% use the Internet for reading online newspapers and magazines (ranging from 18% in Poland to 64% in Denmark and Finland) (Eurostat 2009 data).

The usefulness of the Internet for learning purposes is also reflected in Eurostat data. In 2009, an average of 31% of the EU27 population (aged 16 to 74) already use the Internet for seeking information with the purpose of learning, up 8% from 2007. This figure shows little variation across Member States, ranging between 20% and 50% in the majority of European countries (Figure 1).



Fig. 1: Eurostat data on the use of the Internet for seeking information with the purpose of learning (2009).

However, only 5% of Europeans used the Internet for doing an online course. This figure is low across all Member States, ranging between 1% and 8% except for Finland (13%) and Belgium (18%) (Figure 2).



Fig. 2: Eurostat data on the use of the Internet for online courses (2009).

Similarly, the percentages of those who use the Internet to look for a job or send a job application are relatively low, with 15% as the EU27 average, ranging from a mere 27% in Denmark and to low levels of 5% in Romania and Cyprus. These numbers contrast with the proportion of Europeans who have ordered goods or services online (37%), use Internet banking (32%) or have interacted with public authorities via the Internet (29%).

These figures reflect and confirm the view generally held by researchers and policy makers that, while ICT are used widely to support learning in an informal way, formal Education and Training is lagging behind in reaping the benefits of ICT to increase and improve learning opportunities.

2. The Rise of Social Media

Studies conducted by the Institute for Prospective Technological Studies (IPTS) suggest that the high take up of social media applications¹ outside of formal educational settings provides new opportunities for innovating and modernising Education and Training institutions and for preparing learners for the 21st century.²

The high rate of people using the Internet for sending and receiving e-mails – on average, 57% in the EU27 in 2009 (and with the lowest level as high as 28% in Romania) – is an indicator for the perceived usefulness of the Internet for communication and knowledge

¹ Social media applications – often also called "Web 2.0" or "social computing" applications – comprise applications for blogging, podcasting, collaborative content (e.g. Wikipedia), social networking (e.g. MySpace, Facebook), multimedia sharing (e.g. Flickr, YouTube), social tagging (e.g. Deli.cio.us) and social gaming (e.g. Second Life).

² Cf. Redecker et al. (2009); Ala-Mutka (2009b).

exchange purposes. With the emergence of social media applications, which encourage a more active and interactive Internet usage, this trend is developing further. These services provide users with online networks and communities for multi-directional communication and knowledge exchange and allow them to publish and share d igital content like photos, videos and music.

Eurostat data, collected in 2008, confirms that many Europeans are embracing the opportunities offered by social media to facilitate communication and knowledge exchange.



Fig. 3: Eurostat data on the use of the Internet for advanced communication services (2008).

As Figure 3 shows, 35% of the EU27 population (ranging from 23% in Bulgaria to 50% in Finland) and 57% of those using the Internet (ranging from 33% in Ireland to 75% in Portugal), used it for advanced communication services related to social media in 2008. This figure rises to 73% of the group aged 16 to 24 as a whole and to 83% of the Internet users of this age group. The following advanced communication services achieve the highest usage ratings: instant messaging (35% of all Internet users and 67% of Internet users aged 16 to 24); online networking activities (26% and 50%); reading weblogs (25% and 39%); and Internet telephoning (26% and 35%).

Another trend supporting the use of social media for knowledge exchange, information and learning purposes, is reflected in the high usage of Internet sites and services to exchange audiovisual content.

In 2008, as Figure 4 illustrates, 61% of European Internet users and 81% of those aged 16 to 24 used the Internet for leisure activities related to obtaining and sharing audiovisual content, ranging from 43% (aged 16 to 24: 65%) in Ireland to 43% in Luxembourg (95% in the Netherlands for 16 to 24 year olds). 33% (aged 16 to 24: 46%) used it for listening to Web radios and/or watching Web television; 67% (aged 16 to 24: 78%) used it for downloading/listening to/watching/playing music, films and/or games; and 19% (aged 16 to 24: 32%) uploaded and shared self-created content.



Fig. 4: Eurostat data on the use of the Internet for sharing audiovisual content (2008).

Given that social media applications and services have only recently become available, these high usage rates indicate a surprisingly rapid take up among large parts of the European population. These findings are confirmed by a recent IPTS assessment of social computing (Ala-Mutka et al. 2009b) and by figures from other independent sources. Nielsen Online (2009) estimates that, globally, 67% of Internet users accessed social networking sites or blogs in 2008. According to the 2009 Youthnet report (Hulme, 2009), 75% of 16 to 24 year olds claimed they could not live without the Internet; 82% of the young people surveyed said they had used the Internet to look for advice and information for themselves, and 60% stated they had looked for information for someone else.

3. The Impact and Potential of Learning 2.0

IPTS research demonstrates that social media can contribute to enhancing learning and teaching opportunities in Europe. To assess the current impact and scope of "Learning 2.0" – a concept that broadly summarizes all opportunities arising from the use of social media for learning and/or education and training – two parallel studies were conducted, both of which exploited a vast resource of evidence and used a triangulation method to synthesize findings generated along different research lines. An overview of the methodology is displayed in Figure 5.

	Learning 2.0 – Innovating formal Education & Training	Innovations in informal ICT-enabled Learning Communities
Research questions	 What is the potential of Learning 2.0 for promoting innovation in E&T in Europe? What is its potential for promoting inclusion by reengaging groups at risk of exclusion? 	 Can new ICT-enabled communities benefit lifelong learning? How? What can E&T systems learn from them? What are the risks and challenges?
Scope	 Investigate Learning 2.0 initiatives in primary, secondary and tertiary E&T Assess the potential for supporting technological, pedagogical and organisational innovation; Identify & study projects for inclusion. 	 Learning emerging in Online communities consisting of (Preece 2000): <i>People</i>, who socially interact with a shared <i>purpose; Policies</i> that guide people's interactions; <i>Computer systems</i> to mediate social interaction Learning through individuals' networked activities.
Metho- dology	Literature and resource review Case collection (250 cases) In depth case studies (8+8 cases) Expert Workshop (October 2008) Synthesis and Assessment	Literature and resource review Case collection In depth case studies (12 cases) Expert Workshop (March 2009) Synthesis and Assessment

Fig. 5: Methodology used in the two IPTS research projects on Learning 2.0 (2008-2009).

The first study (Redecker et al., 2009) investigated the ways in which social media are, and can be, used in formal educational settings. It assessed the current usage and impact and also opportunities and challenges by drawing on a literature review (Redecker, 2009a); a database in which 250 Learning 2.0 cases were collected via stakeholder consultation (Redecker, 2009b); 16 in-depth case studies (Heid et al., 2009; Cullen et al., 2009) and a validation workshop (Ala-Mutka et al., 2009a). The second study (Ala-Mutka, 2010) concentrated on new learning pathways and patterns arising from the use of social media outside institutional settings, in online networks and communities. This study reviewed a vast range of research data on learning in networks and communities (Ala-Mutka, 2009); studied 12 paradigmatic examples of learning communities in depth, and validated findings in an expert workshop. While the evidence collected in both study lines confirms that social media applications have not yet been exploited widely for learning purposes, the research identifies a substantial number of Learning 2.0 opportunities outside and inside formal Education and Training institutions, which indicate that Learning 2.0 approaches facilitate the acquisition of key competences and foster technological, pedagogical and organisational innovation.

Within formal Education and Training (Redecker et al., 2009), a great number and variety of locally embedded Learning 2.0 initiatives have been identified across Europe, which illustrate that social media can be, and are being, used by Education and Training institutions to:

- facilitate access by current and prospective students to information, making institutional processes more transparent and facilitating the distribution of educational material;
- integrate learning into a wider community, reaching out to virtually meet people from other age-groups and socio-cultural backgrounds, linking to experts, researchers or practitioners in a certain field of study and thus opening up alternative channels for gaining knowledge and enhancing skills;
- support the exchange of knowledge and material and facilitate community building and collaboration among learners and teachers;
- increase academic achievement with the help of motivating, personalised and engaging learning tools and environments;
- implement pedagogical strategies intended to support, facilitate, enhance and improve learning processes.

The research on learning in informal (online) learning networks and communities (Ala-Mutka, 2010) concludes that social media applications provide easy, fast and efficient ways to access a great diversity of information and situated knowledge. They also provide learners with opportunities to develop their competences in collaboration with other learners, practitioners and stakeholders. Additionally, they allow individuals to acquire competences in a holistic manner, embedded in real-life contexts; and effectively and efficiently support competence building in a lifelong learning continuum. Research on informal learning activities in online networks and communities further suggests that informal Learning 2.0 strategies facilitate the development of key competences for the 21st century.

To sum up, both research lines point to the fact that social media can lead to innovations in four different dimensions. Firstly, social media allow learners to access a vast variety of (often freely available) learning **content**, which supports learning and professional development in a lifelong learning continuum; contributes to equity and inclusion and puts pressure on Education and Training institutions to improve the quality and availability of their learning material. Secondly, social media allow users to **create** digital content themselves and publish it online, giving rise to a huge resource of user-generated content from which learners and teachers can mutually benefit, also encouraging more active and pro-active approaches to learning. Thirdly, social media **connect** learners with one another, and to experts and teachers, allowing them to tap into the tacit knowledge of their peers and have access to highly specific and targeted knowledge in a given field of interest. Fourthly, social media support **collaboration** between learners and teachers on a given project or a joint topic of interest, pooling resources and gathering the expertise and potential of a group of people committed to a common objective. These four dimensions (content, creation, connecting and collaboration) have been labelled as the **four C's of Learning 2.0** in IPTS research.

4. Opportunities for Promoting Innovation in Education and Training

The research undertaken indicates that Learning 2.0 strategies can contribute to innovating and modernising Education and Training in Europe. It contributes in particular to the three dimensions of innovation as identified in the Commission's 2008 staff working document on "The use of ICT to support innovation and lifelong learning for all" (SEC(2008) 2629 final), namely technological, pedagogical and organisational innovation.

IPTS research findings (Redecker et al., 2009) indicate that Learning 2.0 gives rise to **technological innovation** in Education and Training by:

- increasing the accessibility and availability of learning content;
- providing new formats for knowledge dissemination, acquisition and management;
- allowing for the production of dynamic learning resources and environments of high quality and interoperability;
- embedding learning in more engaging and activating multimedia environments;
- supporting individualised learning processes by allowing learner preferences to be accounted for; and
- equipping learners and teachers with versatile tools for knowledge exchange and collaboration, which overcome the limitations of face-to-face instruction.

Learning approaches using social media furthermore promote **pedagogical innovation** by encouraging teaching and learning processes that are based on personalisation and collaboration. As a consequence, interaction patterns between and among students and teachers are changed, re-defining the roles of teachers and learners. Teachers become

designers, coordinators, moderators, mediators and mentors, rather than instructors or lecturers, whereas students not only have to take responsibility for their own learning progress, but also have to support each other in their learning endeavours, and jointly create the learning content and context. Learners need to assume a pro-active role in the learning process, and develop their own – individual and collective – rules and strategies for learning.

Learning 2.0 both requires and promotes **organisational innovation**. Learning 2.0 can contribute to making educational organisations more dynamic, flexible and open. It can help Education and Training institutions to become reflective organisations that critically evaluate and revise their corporate strategies in order to support innovative pedagogies. However, Education and Training organisations have to make sure they provide an infrastructure in which social media tools are accessible to all learners and teachers; create an atmosphere of support for Learning 2.0; foster and integrate new teaching and learning models; and be open to new assessment and grading strategies.

The research evidence furthermore shows that social media offer specific opportunities for the four strategic challenges of European Education and Training policies in the years leading up to 2020 (European Commission, 2008g) and can thus contribute to modernising Education and Training in Europe.

Enhancing innovation and creativity: Social media support more engaging and playful approaches, provide new formats for creative expression, and encourage learners and teachers to experiment with different, innovative, ways of articulating their thoughts and ideas. The Learning 2.0 landscape itself is in turn shaped by experimentation, collaboration and empowerment, and allows learners and teachers to discover new ways of actively and creatively developing their individual competences.

Improving the quality and efficiency of provision and outcomes: Social media offer a broad variety of versatile tools which address different channels and involve learners more actively in constructing their own learning process, allowing more effective learning strategies to be implemented. Research evidence indicates that Learning 2.0 strategies can furthermore improve individual performance, actively foster the development of transversal competences, and nurture abilities to flexibly develop skills in a lifelong learning continuum.

Making lifelong learning and learner mobility a reality: Social media can actively support lifelong learning by offering accessible, flexible and dynamic learning environments that can complement and supplement initial training. Furthermore, the networking potential of social media, together with its power to overcome time and space barriers, supports interaction and collaboration among and between learners and teachers who are geographically dispersed and enables students to broaden their horizons, and collaborate across borders, language barriers, and institutional walls.

Promoting equity and active citizenship: IPTS research results indicate that social media approaches to learning can mitigate existing inequalities and can be employed to successfully re-engage individuals who are at risk of exclusion from the knowledge society. Learning 2.0 strategies can effectively increase the accessibility and availability of learning opportunities for the hard to reach, and can significantly improve motivation and engagement in learning. By offering tailored learning opportunities inside and outside of Education and Training institutions, they can alleviate disadvantages and lever the intellectual potential of learners who, for different reasons, have been failed by formal Education and Training.

5. Challenges, barriers and bottlenecks

While the potential of social media for enhancing learning opportunities is substantial, it should be noted that in 2009, according to Eurostat data, 30%Europeans aged 16 to 74 had still never used the Internet. While this figure dropped from 42% in 2006 by 12 percentage points in only three years, in a number of European countries more than half of the population has never used the Internet.³

Furthermore, the following technical, pedagogical and organisational bottlenecks have been identified, which may hinder the take up and mainstreaming of Learning 2.0 approaches:

Access to ICT and basic digital skills: Access to ICT at home and in schools and basic digital skills constitute a major obstacle for the use of social media in Education and Training, and a key problem for inclusion and equity. In particular, teachers often do not feel confident enough with their ICT skills to experiment with Learning 2.0 strategies.

Advanced digital competence: Learning 2.0 strategies require the confident and critical use of ICT and an informed and critical attitude towards interactive media and digital information. Adolescents especially often lack these skills. Teachers need assistance in supplying their students with the necessary advanced digital skills to safely use social media environments.

Special needs: Though Learning 2.0 supports different learning paces and cognitive styles, thus generally empowering learners, it can also create and increase difficulties for students with physical or cognitive disabilities, or special learning needs. For example, text-based collaboration and knowledge building activities with wikis and blogs can disadvantage dyslectic students. However, in these cases, due to the richness of social media, alternative tools can be chosen that accommodate for these differences and mediate the inclusion of learners with special needs.

Pedagogical skills: Embedding social media tools in education demands a change in the role of teachers, who have to act as guides and mentors, enabling and facilitating self-regulated learning processes. The mainstream deployment of Learning 2.0 approaches and strategies might be hindered by a lack of didactic methodologies, toolsets and training programmes for teachers which would facilitate this transition and enable teachers to assume this new role.

Uncertainty: Social media underlie continuous change and transformation. As a consequence, many key issues relevant for sustained deployment of Learning 2.0 in Education and Training have not yet been addressed or solved adequately. In particular, uncertainties have arisen concerning the future development and availability of current applications and services; the reliability of user-produced content; suitable assessment and certification strategies; and valid pedagogical concepts and methods for learning with social media.

Safety and privacy concerns: Social media raise important issues in relation to identity, trust, reputation and privacy, according to a recent IPTS survey among young people (Lusoli & Miltgen, 2009) and other studies. The risks arising from using open online environments are a bottleneck for the deployment of the full range of social media approaches in educational institutions. There are particular risks associated with the uncritical use of social networking services by adolescents and young adults in connection with self-destructive behaviour, cyberbullying and online grooming (cf. Childnet International, 2008). Educators need to make sure that the identities of their learners are protected; that rules of conduct are implemented and adhered to; and that intellectual property rights are respected.

³ Romania (61%), Bulgaria (53%), Greece (53%), Portugal (50%).

Requirements on institutional change: The appropriation of social media in formal education requires schools to re-evaluate their role in society as knowledge providers. New ways to support teachers, learners and administrators are needed, which challenge existing power structures. Resistance to change may cause Education and Training institutions not to take an active role in deploying promising Learning 2.0 strategies.

6. Policy implications

On the basis of the strengths and weaknesses of Learning 2.0 approaches identified in IPTS research, a number of policy options are proposed:

Support experimentation and take up: Measures to support take up should be implemented. A joint vision for Learning 2.0 could promote take up and guide stakeholders, advising them on how to reap the benefits of social media for learning; how to use and implement social media tools; and how to address safety, security and privacy concerns, also encouraging them to use Learning 2.0 approaches to promote equity and inclusion.

Encourage teachers: Strategies that acknowledge the key role of teachers in fostering new learning and teaching approaches should be devised. These should empower teachers to innovate and be creative with social media for educational activities; provide supportive measures and networks for learning new skills and approaches; and propose incentives that encourage teachers to play an active role in transforming Education and Training.

Catalyse the efforts of institutions: Participatory development strategies should be formulated which support organisational change and provide practical guidelines to ease the transformation at the level of Education and Training institutions.

Revise assessment strategies: A debate should be instigated on the role and function of assessment, certification and accreditation in order to reap the benefits of social media practices which necessitate or allow for different forms of assessment. New approaches promoted by the European Qualifications Framework and also social assessment and recognition opportunities, could be taken as a starting point.

Create synergies: The dialogue between researchers, practitioners and decision makers should be fostered in order to monitor and investigate ongoing developments, gather evidence of good practices and suggest the next steps for the European educational landscape.

Evidence shows that social media are already affecting the ways in which people find, create, share and learn knowledge, through rich media opportunities and in collaboration with each other. These practices are at the core of Education and Training, as they promote the competences needed for future jobs and enable new tools for educational institutions to transform themselves into places that support the competences needed for participation in a knowledge-based society.

Strengthening education and training, and also lifelong learning and the acquisition of new skills are considered by the Commission, in its 2009 consultation document on the future "EU 2020 strategy" (COM(2009)647 final) amongst the key drivers for Europe's economic and social performance. Organisations such as the Brussels think-thank "The Lisbon Council" are now arguing for urgently addressing this challenge on a wide front, based on the social consensus around skills as the key for Europe's future (Lisbon Council, 2009). European Education and Training systems should embrace social media and the innovative learning opportunities and practices enabled by emerging new technologies to keep up with change and prepare their learners for rest of the 21st century.

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Abstract

Over the last few years, the Internet has had a profound effect on the private and professional lives of European citizens, offering them an increasing number and range of opportunities for accessing information, gaining and exchanging knowledge and realising personal learning goals. With the emergence of social media applications, which encourage a more active and interactive internet usage, this trend is developing further. Recent research conducted by the Institute for Prospective Technological Studies (IPTS) indicates that the high take up of social media applications outside formal educational settings provides new opportunities for innovating and modernising Education and Training institutions and for preparing learners for the 21st century.

IPTS research suggests that social media can contribute to enhancing and innovating learning and teaching opportunities by supporting learning and professional development in a lifelong learning continuum; by contributing to equity and inclusion; and by improving the quality and availability of their learning material. Social media furthermore encourage more active and pro-active approaches to learning; open up new sources for information; and support collaboration between learners and teachers.

The findings indicate that learning strategies that make use of social media can contribute to innovation in Education and Training in Europe by facilitating technological, pedagogical and organisational innovation. These learning strategies can also help address the four strategic challenges of European Education and Training policies in the years leading up to 2020, thus contributing to the modernisation of Education and Training in Europe.

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